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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,810	07/31/2000	Paul-Wilhelm Braun	7875/0H358	5261

7590 04/20/2004

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805 Thrid Avenue
New York, NY 10022

EXAMINER	
KAO, CHIH CHENG G	
ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/629,810	BRAUN, PAUL-WILHELM	
	Examin r	Art Unit	
	Chih-Cheng Glen Kao	2882	

-- The MAILING DATE of this c mmunication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,5,7-13 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,5,7-13 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 2, 7, and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holzapfel et al. (US Patent 6392224) in view of Braun (US Patent 5508088), Shelander (US Patent 4899048), and Jankowski (DE 19805207).

2. With regards to claims 2, 7, and 10-13, Holzapfel et al. discloses a positioning device (title) comprising a device (Fig. 1, #9) having at least one code track of a group with mutually constant spacing and a basic optical density level (Fig. 1, #8b) with at least one higher-order code marking overlapping therewith (Fig. 1, #8a), wherein the at least one higher-order code track has a different optical density compared to the first group (col. 5, lines 1-5), whereas the code markings of the at least one higher-order group have a arbitrary spacing for controlling different functions from at least one of the purposes of controlling a start position, controlling an end position, calibrating, determining an absolute position (col. 5, lines 10-15), a signal processing device (Fig. 1, #3), a light source (Fig. 1, #4), a light sensitive sensing device (Fig. 1, #6), wherein the code markings have a detectable grading for generating position signals (Fig. 2b

and 2a), and wherein the code markings have a predefined difference in optical density levels (col. 5, lines 1-5).

However, Holzapfel et al. does not seem to specifically disclose a "timing" device, a single sensor-emitter unit, the code markings and code track having three different optical densities for controlling different functions, and an LED or phototransistor.

Braun teaches a "timing" device (Title), a single sensor-emitter unit (Fig. 1b, #12a and 14a), and code markings have different degrees of reflectivity (Fig. 1b and Fig. 3, #25 and 27). Shelander teaches an LED and phototransistor (Fig. 1, "LED" and "phototransistor"). Jankowski teaches three different optical densities (Figs. 2-4) for controlling different functions (Title and "start" in the Specification or Claim 6).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the device of Holzapfel et al. with the a timing device, single sensor-emitter unit, and reflectivity of Braun, since one would be motivated to incorporate this for better controlling machine tools, handling equipment, or other servo-mechanical elements as suggested by Braun (Abstract, lines 1-2) and since one would be motivated to have a single sensor-emitter unit and reflectivity for a simpler design as implied from Braun (col. 1, lines 53-67).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the device of Holzapfel et al. with the LED and phototransistor of Shelander, since these components are considered conventional in the art as shown by Shelander (Fig. 1, "Prior Art") and would have been within routine skill for one having ordinary skill in the art to substitute an LED or phototransistor as the light source or light sensitive sensing device.

One would be motivated to use an LED or phototransistor to keep the device as small as possible as seen in the figures.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the device of Holzapfel et al. with the three different optical densities of Jankowski, since one would be motivated to incorporate this to obtain more bits of information such as moving direction and time sequence, which are different functions, as shown by Jankowski (Claim 1 or Claim 6).

3. With regards to claims 8 and 9, Holzapfel et al. in view of Braun, Shelander, and Jankowski suggest a device as recited above.

However, Holzapfel et al. does not disclose three different optical densities, which can range between light-blocking and almost complete transparency, which are made of reflecting material.

Jankowski further teaches three different optical densities, which can range between light-blocking and almost complete transparency (Page 3, lines 4-5), which are made of reflecting material (Page 3, last paragraph).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further modify the device of Holzapfel et al. with the three different optical densities of reflecting material of Jankowski, since one would be motivated to incorporate these type of markings to obtain more bits of information such as moving direction and time sequence, which are different functions, as shown by Jankowski (Claim 1 or 6).

4. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holzapfel et al. in view of Braun, Shelander, and Jankowski as applied to claim 10, and further in view of Norton et al. (US Patent 6140636).

Holzapfel et al. in view of Braun, Shelander, and Jankowski suggests a device as recited above.

However, Holzapfel et al. does not seem to specifically disclose two-channel or multi-channel evaluation.

Norton et al. teaches two-channel or multi-channel evaluation (col. 3, lines 17-25).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the suggested device of Holzapfel et al. in view of Braun, Shelander, and Jankowski with the two-channel evaluation of Norton et al., since one would be motivated to incorporate this to provide information regarding direction of motion, speed, and absolute position, but at a lower cost than a three-channel encoder as shown by Norton et al. (col. 2, lines 45-50).

Response to Arguments

5. Objections to the claims in the Office Action mailed 8/19/03 have been withdrawn in light of the Amendment filed 1/27/04.

6. Applicant's arguments filed 1/27/04 have been fully considered but they are not persuasive.

Regarding Jankowski, the applicant points out only one function for the use of the optical densities (Title). Another function is also noted in the reference by the "start marking" (Specification and Claim 6). The spacings are also arbitrary based on design choice as noted in the different spacings in Figures 2-4.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gk

DAVID V. BRUCE
PRIMARY EXAMINER